

YY-DM365 使用说明书



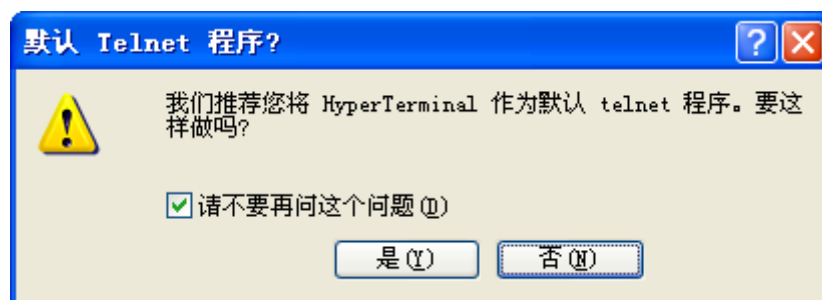
2010-06

U-WING

一、设置超级终端

使用串口查看启动时的打印信息。

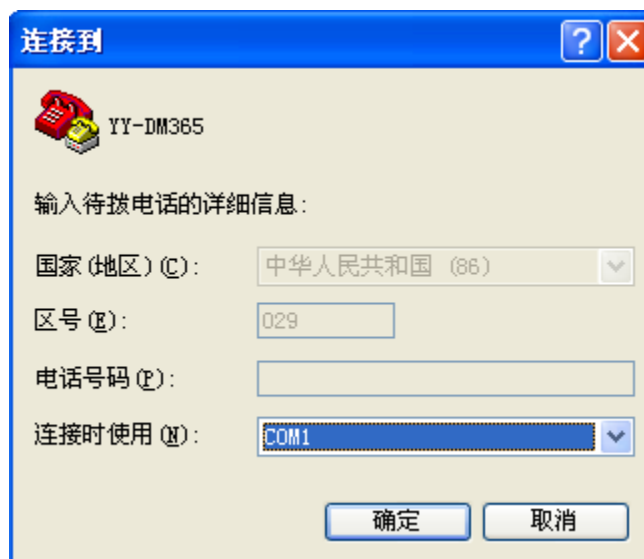
开始→程序→附件→通讯→超级终端，



点击“否”。



输入 YY-DM365 后，点击“确定”。



点击“确定”。

端口设置如下图所示：



点击“确定”。

二、烧写 UBL 和 U-Boot 到 YY-DM365

1 说明:

- 1) 此烧写环境是在 Ubuntu Linux 操作系统下进行, Ubuntu 8.04(在“ubuntu”文件夹中)版本测试通过;
- 2) 烧写所需二进制文件及烧写工具可在“UBL u-boot & burn tools”找到;
- 3) YY-DM365 产品测试过程中, 已经对其进行烧写了 UBL、u-boot 启动加载程序, 故客户如若不对 u-boot 等进行修改, 建议不对产品重新烧写 ubl、u-boot;
- 4) 2G 容量 SD 卡测试通过, 不支持 SDHC。

2 步骤:

1) 烧写工具及烧写文件的准备

- (1) 将 dm365_uboot_burn_tool.tar.gz 拷贝到 /opt 目录下并进行解压, 得到 dm3xx_sd_boot-6_leopard 文件夹

```
tar -zxvf dm365_uboot_burn_tool.tar.gz
```

- (2) 将待烧写的文件 (UBL_DM36x_NAND.bin、u-boot-leopard365.bin) 拷贝到“/opt/dm3xx_sd_boot-6_leopard/original”文件夹下(第(1)步所解压的文件夹相应路径下已包含这两个文件)。

2) SD 卡准备

- (1) 将 SD 卡插入装有 Ubuntu Linux 操作系统的 PC 机
- (2) 查看 SD 卡的设备文件名, 一般为/dev/sd*, 如下图所示

```
root@ubuntu-desktop:/opt/dm3xx_sd_boot-6_leopard#  
root@ubuntu-desktop:/opt/dm3xx_sd_boot-6_leopard# fdisk -l  
  
Disk /dev/sda: 42.9 GB, 42949672960 bytes  
255 heads, 63 sectors/track, 5221 cylinders  
Units = cylinders of 16065 * 512 = 8225280 bytes  
Disk identifier: 0x000ebb17  
  
   Device Boot      Start         End      Blocks   Id  System  
/dev/sda1  *           1           5034    40435573+   83  Linux  
/dev/sda2             5035          5221     1502077+    5  Extended  
/dev/sda5             5035          5221     1502046    82  Linux swap / Solaris  
  
Disk /dev/sdb: 1977 MB, 1977614336 bytes  
61 heads, 62 sectors/track, 1021 cylinders  
Units = cylinders of 3782 * 512 = 1936384 bytes  
Disk identifier: 0x70bf734b  
  
   Device Boot      Start         End      Blocks   Id  System  
/dev/sdb1           1          1021     1930680    b  W95 FAT32  
root@ubuntu-desktop:/opt/dm3xx_sd_boot-6_leopard#
```

- (3) 设置特定路径环境变量 (如若不重新编译源文件以生成可执行文件“dm3xx_sd_boot”的话, 可跳过此步)

```
export PATH=$PATH:./bin.x86
```

- (4) 对 SD 卡进行格式化, 如下图所示的部分截图

```
cd /opt/dm3xx_sd_boot-6_leopard
```

sudo ./dm3xx_sd_boot format /dev/sdX (将sdX换成用户自己SD卡的设备名, 如本例中的sdb)

```
/dev/sdb2 * 40+ 1885- 1845- 1889109 83 Linux
/dev/sdb3 0 - 0 0 0 Empty
/dev/sdb4 0 - 0 0 0 Empty
Successfully wrote the new partition table

Re-reading the partition table ...

mkfs.vfat 2.11 (12 Mar 2005)
0+0 records in
0+0 records out
0 bytes (0 B) copied, 8.1939e-05 s, 0.0 kB/s
0+1 records in
0+1 records out
18 bytes (18 B) copied, 0.000109807 s, 164 kB/s
total 15000
-rwxr-xr-x 1 root root 15360000 2010-06-02 09:35 dm3xx.dat
SD card /dev/sdb formatted
10000+0 records in
10000+0 records out
10240000 bytes (10 MB) copied, 1.3118 s, 7.8 MB/s
dm3xx_boot_data_addr=0x0a4400
Image dm3xx_boot_rec:alaced00 100 3c 523 0 0 0 0 a4400
10000+0 records in
10000+0 records out
10240000 bytes (10 MB) copied, 1.22645 s, 8.3 MB/s
dm3xx boot record is written
Please reinsert the card for auto mounting or mount it manually
root@ubuntu-desktop:/opt/dm3xx_sd_boot-6_leopard#
```

擦出成功
部分截图

重新插入

- (5) SD 卡格式化完成之后, 拔出 SD 卡, 再重新插入 PC 机, 等待其自动或由用户手动挂载在 “/media/disk” 下

- (6) 对 SD 进行烧写相应的 ubl、u-boot, 此时还附带将 ulmage、ramdisk 一并烧写

```
./dm3xx_sd_boot data [/media/disk/dm3xx.dat]
```

如下图所示, 至此, SD 卡准备工作完成

```

root@ubuntu-desktop:/opt/dm3xx_sd_boot-6_leopard# make install
./dm3xx_sd_boot data
copying data to
Writing /media/disk/dm3xx.dat
000200-006754,    25940 bytes <- sdcard_flash/sdcard_flash_DM36x.bin
008000-008200,    512 bytes <- test pattern 1 2 3
010000-015000,    20480 bytes <- original/UBL_DM36x_NAND.bin
020000-044bb8,    150456 bytes <- original/u-boot-leopard365.bin
060000-1c76e0,    1472224 bytes <- original/uImage-dm365
400000-bcb5c7,    8172999 bytes <- original/ramdisk.gz
syncing
DM355 boot data copied in data file /media/disk/dm3xx.dat on
Filesystem      1K-blocks      Used Available Use% Mounted on
/dev/sdb1         40945         15001      25945  37% /media/disk
root@ubuntu-desktop:/opt/dm3xx_sd_boot-6_leopard#

```

3) 对 Nand flash 烧写

- (1) 将 SD 卡插入到 YY-DM365 硬件电路板 SD 卡槽中;
- (2) 将 DIPSW1(三位拨码开关)第 2 位拨到 ON 一端;
- (3) 连接串口线到 PC 机, 打开超级终端
- (4) 上电启动, 将会自动将 SD 卡所烧写的文件全部烧写到 NAND Flash 中, 部分启动烧写信息如下图所示

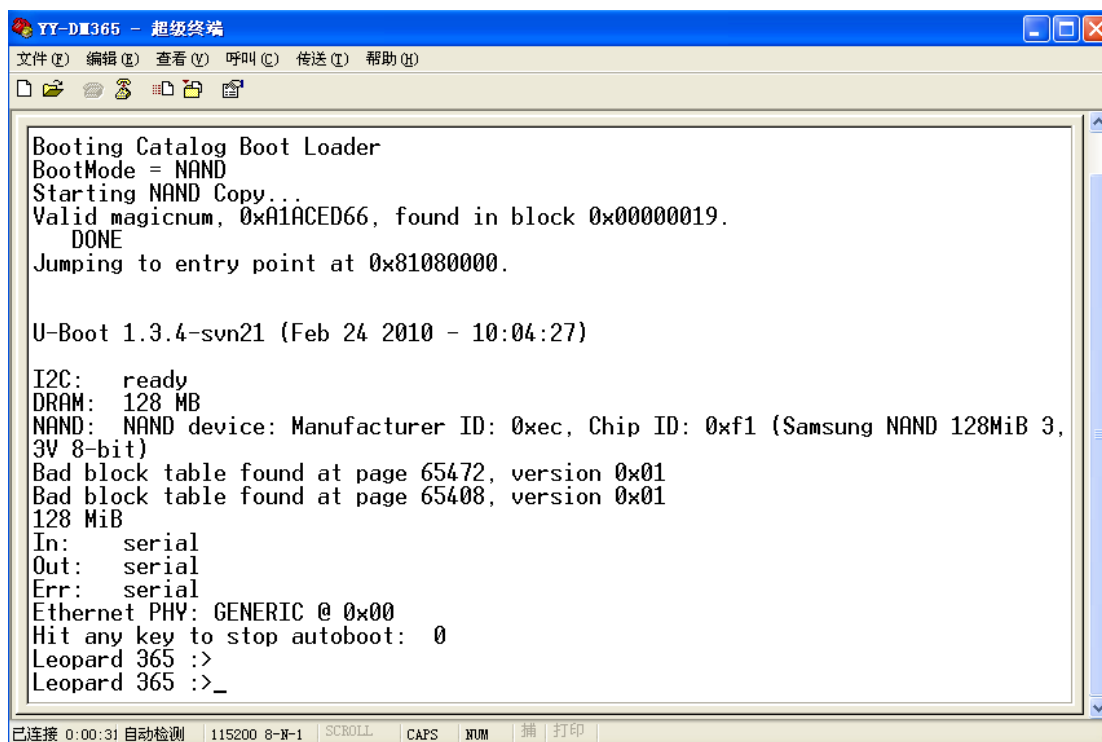
```

Erasing block 0x00000001 through 0x0000003F.
Bad Block 0x0000039A Erasing is skipped
sdcard install
* Flashing UBL
sdcard_read sdc_src=0x000B4400 dst=0x80001248 len=0x00007800 dst + len=0x80008A4
8 *data0=0xEE190F31
Writing header data to Block 00000001, Offset 00020000
* Flashing u-boot
sdcard_read sdc_src=0x000C4400 dst=0x81080000 len=0x00028000 dst + len=0x810A800
0 *data0=0xEA000012
Assuming GNU UBL UBL_GNU_ENTRY=0x00000100
Writing header data to Block 00000019, Offset 00320000
* Flashing kernel
sdcard_read sdc_src=0x00104400 dst=0x80700000 len=0x00300000 dst + len=0x80A0000
0 *data0=0x56190527
nand_write dst_nand=0x00400000 block_idx=0x00000020 len=0x00300000
* Flashing Root FS
sdcard_read sdc_src=0x004A4400 dst=0x82000000 len=0x00800000 dst + len=0x8280000
0 *data0=0x08088B1F
nand_write dst_nand=0x00600000 block_idx=0x00000030 len=0x00800000
1 - boot; 2 - install; 3 - erase flash, 4 - nand boot, 5 - test first 16MB of RA
M
u - install ubl only, d - nand flash dump
>

```

三、u-boot 环境变量的设置、linux 内核镜像及文件系统的烧写

- 1 将 DIPSW1 的所有位**拨离** ON 一端(即设置三位都为 OFF 状态), 以从 NAND Flash 启动;
- 2 将连接串口线, 网线到 PC, 打开超级终端;
- 3 对 YY-DM365 上电, 启动 u-boot, 这时可在超级终端看到打印信息, 按任意键终止其自动启动, 如下图所示



```
YY-DM365 - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)

Booting Catalog Boot Loader
BootMode = NAND
Starting NAND Copy...
Valid magicnum, 0xA1ACED66, found in block 0x00000019.
DONE
Jumping to entry point at 0x81080000.

U-Boot 1.3.4-svn21 (Feb 24 2010 - 10:04:27)

I2C: ready
DRAM: 128 MB
NAND: NAND device: Manufacturer ID: 0xec, Chip ID: 0xf1 (Samsung NAND 128MiB 3,
3V 8-bit)
Bad block table found at page 65472, version 0x01
Bad block table found at page 65408, version 0x01
128 MiB
In: serial
Out: serial
Err: serial
Ethernet PHY: GENERIC @ 0x00
Hit any key to stop autoboot: 0
Leopard 365 :>
Leopard 365 :>_

已连接 0:00:31 自动检测 115200 8-N-1 SCROLL CAPS NUM 插 打印
```

4 设置 u-boot 启动环境变量

setenv ipaddr its_ip_addr (如192.168.0.200)

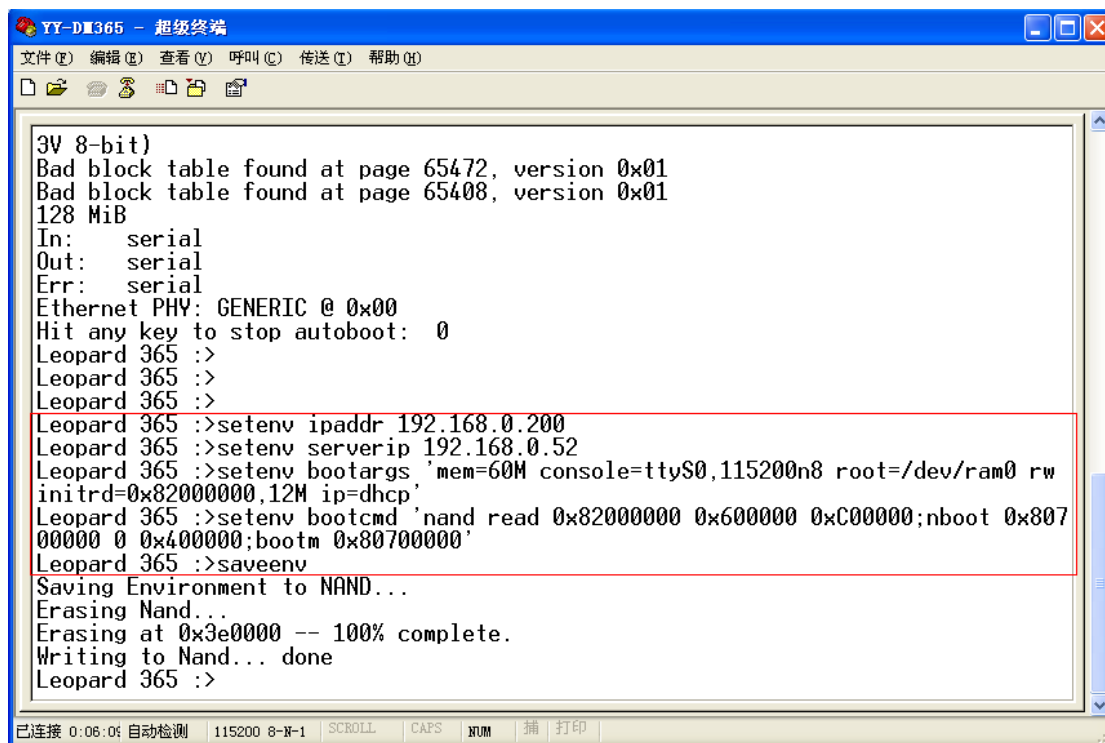
setenv serverip server_ip_addr (如192.168.0.52)

**setenv bootargs 'mem=60M console=ttyS0,115200n8 root=/dev/ram0 rw
initrd=0x82000000,12M ip=dhcp'**

**setenv bootcmd 'nand read 0x82000000 0x600000 0xC00000;nboot 0x80700000 0
0x400000;bootm 0x80700000'**

saveenv

如下图所示



```
YY-D1365 - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)
[Icons]
3V 8-bit}
Bad block table found at page 65472, version 0x01
Bad block table found at page 65408, version 0x01
128 MiB
In: serial
Out: serial
Err: serial
Ethernet PHY: GENERIC @ 0x00
Hit any key to stop autoboot: 0
Leopard 365 :>
Leopard 365 :>
Leopard 365 :>
Leopard 365 :>setenv ipaddr 192.168.0.200
Leopard 365 :>setenv serverip 192.168.0.52
Leopard 365 :>setenv bootargs 'mem=60M console=ttyS0,115200n8 root=/dev/ram0 rw
initrd=0x82000000,12M ip=dhcp'
Leopard 365 :>setenv bootcmd 'nand read 0x82000000 0x600000 0xC00000;nboot 0x807
00000 0 0x400000;bootm 0x80700000'
Leopard 365 :>saveenv
Saving Environment to NAND...
Erasing Nand...
Erasing at 0x3e0000 -- 100% complete.
Writing to Nand... done
Leopard 365 :>
```

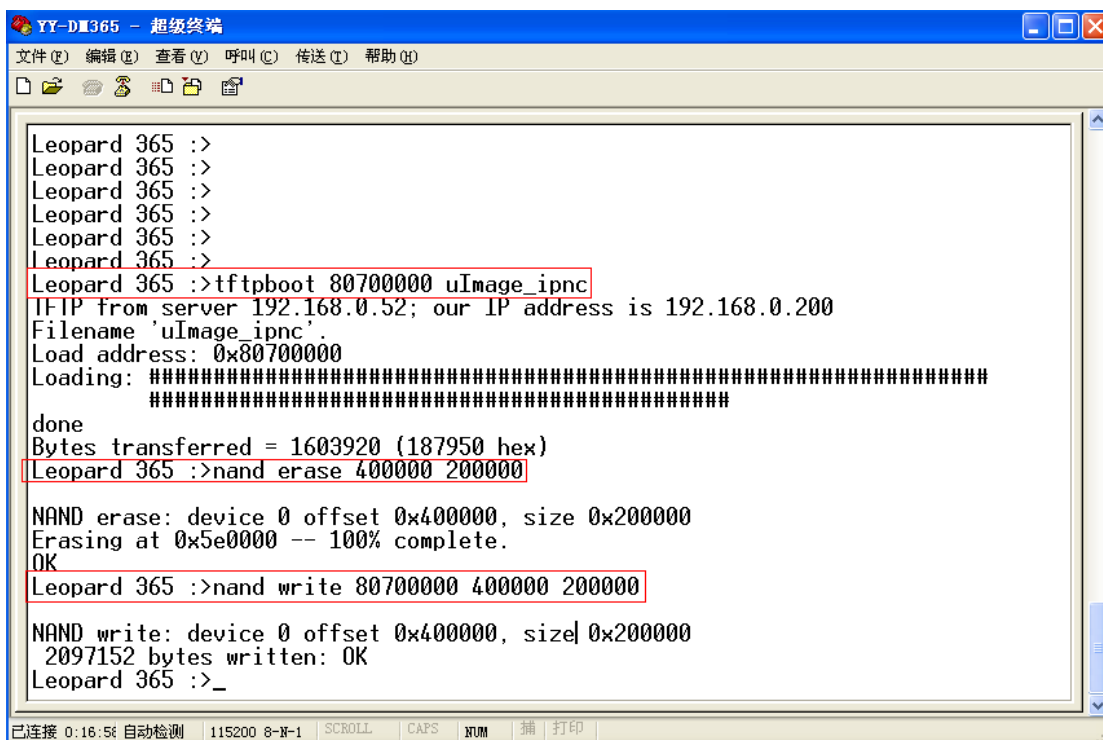

5 烧写 linux 内核和文件系统

- 1) 在 Redhat linux 主机上, 将 uImage_ipnc 和 ramdisk_ipnc_dm365.gz 拷贝到/tftpboot 目录下, 并将 YY-DM365 网口与 PC 机网口相连。
- 2) 内核 uImage_ipnc 的烧写, 如下图所示

tftpboot 80700000 uImage_ipnc

nand erase 400000 200000

nand write 80700000 400000 200000



```
YY-DM365 - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)
Leopard 365 :>
Leopard 365 :>
Leopard 365 :>
Leopard 365 :>
Leopard 365 :>
Leopard 365 :>
Leopard 365 :>tftpboot 80700000 uImage_ipnc
TFTP from server 192.168.0.52; our IP address is 192.168.0.200
Filename 'uImage_ipnc'.
Load address: 0x80700000
Loading: #####
done
Bytes transferred = 1603920 (187950 hex)
Leopard 365 :>nand erase 400000 200000

NAND erase: device 0 offset 0x400000, size 0x200000
Erasing at 0x5e0000 -- 100% complete.
OK
Leopard 365 :>nand write 80700000 400000 200000

NAND write: device 0 offset 0x400000, size 0x200000
2097152 bytes written: OK
Leopard 365 :>_

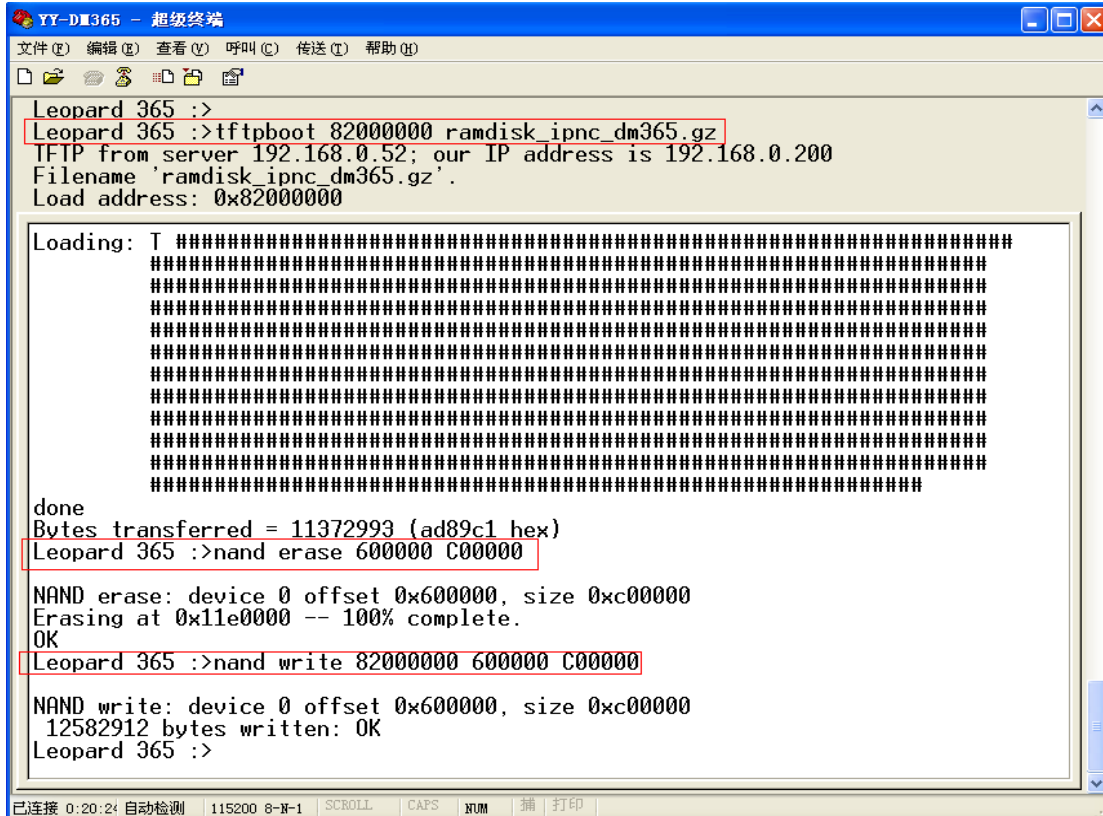
已连接 0:18:56 自动检测 115200 8-N-1 SCROLL CAPS NUM 捕 打印
```

3) 文件系统 ramdisk_ipnc_dm365.gz 的烧写，如下图所示

```
tftpboot 82000000 ramdisk_ipnc_dm365.gz
```

```
nand erase 600000 C00000
```

```
nand write 82000000 600000 C00000
```



```
YY-DM365 - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)
Leopard 365 :>
Leopard 365 :>tftpboot 82000000 ramdisk_ipnc_dm365.gz
TFTP from server 192.168.0.52; our IP address is 192.168.0.200
Filename 'ramdisk_ipnc_dm365.gz'.
Load address: 0x82000000

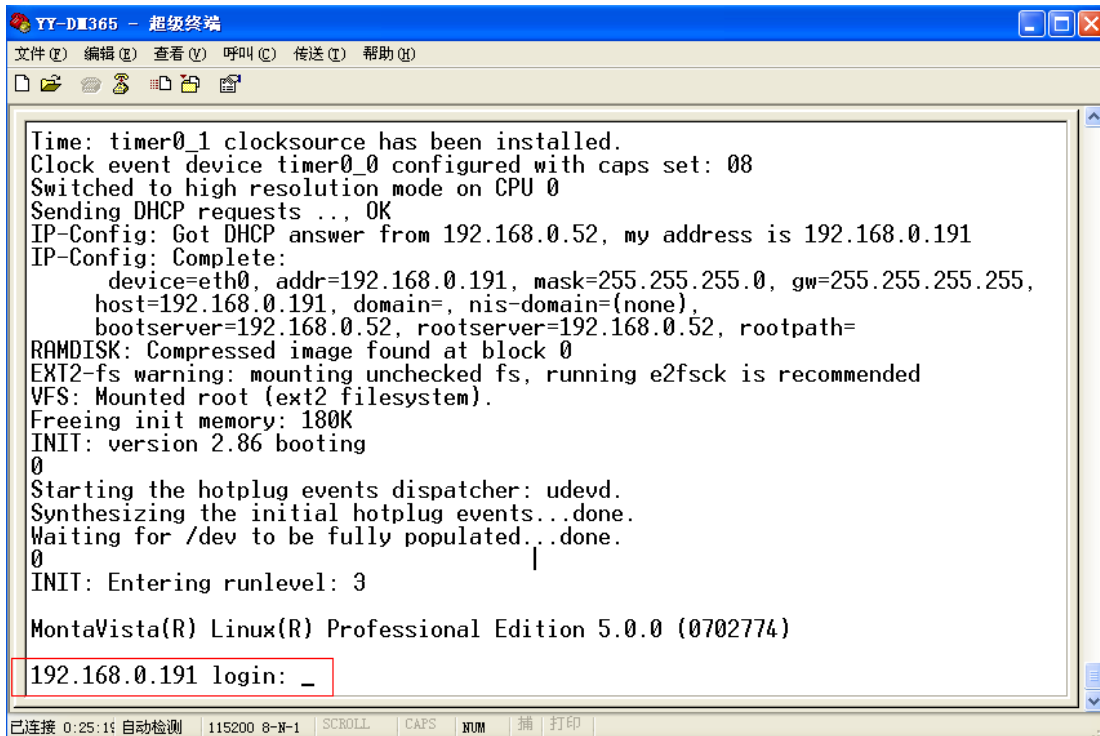
Loading: T #####
done
Bytes transferred = 11372993 (ad89c1 hex)
Leopard 365 :>nand erase 600000 C00000

NAND erase: device 0 offset 0x600000, size 0xc00000
Erasing at 0x11e0000 -- 100% complete.
OK
Leopard 365 :>nand write 82000000 600000 C00000

NAND write: device 0 offset 0x600000, size 0xc00000
12582912 bytes written: OK
Leopard 365 :>
```

四、linux 内核启动及应用程序的运行

1 对已烧写内核与文件系统的 YY-DM365 进行上电，等待成功启动 linux 系统，登录提示符的出现，如下图



```
YY-DM365 - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)
Time: timer0_1 clocksource has been installed.
Clock event device timer0_0 configured with caps set: 08
Switched to high resolution mode on CPU 0
Sending DHCP requests ..., OK
IP-Config: Got DHCP answer from 192.168.0.52, my address is 192.168.0.191
IP-Config: Complete:
    device=eth0, addr=192.168.0.191, mask=255.255.255.0, gw=255.255.255.255,
    host=192.168.0.191, domain=, nis-domain=(none),
    bootserver=192.168.0.52, rootserver=192.168.0.52, rootpath=
RAMDISK: Compressed image found at block 0
EXT2-fs warning: mounting unchecked fs, running e2fsck is recommended
VFS: Mounted root (ext2 filesystem).
Freeing init memory: 180K
INIT: version 2.86 booting
0
Starting the hotplug events dispatcher: udevd.
Synthesizing the initial hotplug events...done.
Waiting for /dev to be fully populated...done.
0
INIT: Entering runlevel: 3
MontaVista(R) Linux(R) Professional Edition 5.0.0 (0702774)
192.168.0.191 login: _
```

2 依次键入下图红框内的命令

root (登录用户名)
cd /opt/ipnc (进入到 ipnc 目录)
ls (显示 ipnc 目录内容)

```
MontaVista(R) Linux(R) Professional Edition 5.0.0 (0702774)
192.168.0.191 login: root

Welcome to MontaVista(R) Linux(R) Professional Edition 5.0.0 (0702774).
login[483]: root login on 'console'
# cd /opt/ipnc/
# ls
Appro_avi_save          g_file_storage.ko
alarm.wav               i2crw.out
appro-mail              irq.ko
arm_loading             killall.sh
autorun.sh              loadmodules.sh
autorun.sh_original     loadkmodules.sh_original
autorun.sh              loadkmodules.sh
av_capture_load.sh      loadmodules_ipnc.sh
av_capture_unload.sh    loadmodules_ipnc.sh_original
av_server.out           loadmodules_ipnc.sh
boa                     modules
cmemk.ko                ntpclient
csl.ko                  quftp
csl_load.sh             regrw.out
csl_unload.sh           sbull.ko
dhcpcd                  system_server
dm365mmap.ko            test-streamer
drv.ko                  upload
drv_load.sh             upnp-scanip
drv_unload.sh           wis-streamer
edmak.ko                zd1211rw.ko
esmtip
#
```

3 键入./loadmodules_ipnc.sh，加载模块

4 键入./autorun.sh，运行 ipnc 程序 以下是运行应用程序时打印的部分信息

```
ApproDrvInit: 9
queue id:98307
Initializing...
...done initializing
Play this stream using the URL:
      rtsp://192.168.0.168:8556/h264
ApproDrvInit: 10
queue id:98307
Initializing...
Initializing...
...done initializing
Play this stream using the URL:
```

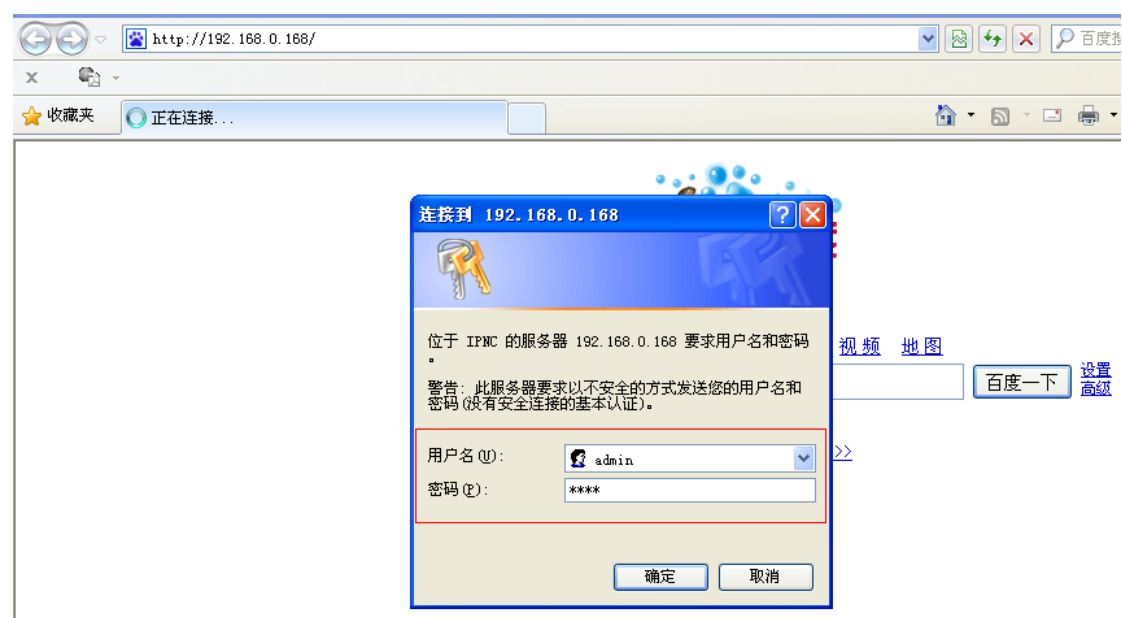


```
rtsp://192.168.0.168/mpeg4
Initializing...
...done initializing
Play this stream using the URL:
    rtsp://192.168.0.168:8554/mpeg4
...done initializing
Play this stream using the URL:
    rtsp://192.168.0.168:8557/h264
net_search_gateway:eth0, A8C0, 0, 1
net_search_gateway:eth0, 0, 100A8C0, 3
dns=192.168.0.1
g_file_storage: Unknown symbol usb_gadget_register_driver
ERROR: Module g_file_storage does not exist in /proc/modules
g_file_storage: Unknown symbol usb_gadget_unregister_driver
insmod: cannot insert `g_file_storage.ko': Unknown symbol in module (-1): No suc
h file or directory
system_server/667[CPU#0]: BUG in local_bh_enable at kernel/softirq.c:196
ApproDrvInit: 3
queue id:98307
queue id:0
queue id:32769
[01/Jan/2000:00:01:05 +0000] boa: server version Boa/0.94.13
[01/Jan/2000:00:01:05 +0000] boa: server built May 26 2010 at 15:13:54.
[01/Jan/2000:00:01:05 +0000] boa: starting server pid=735, port 80
queue id:0
# UDPString=uuid:Upnp-TVEulator-1_0-00_0050651371</UDN>

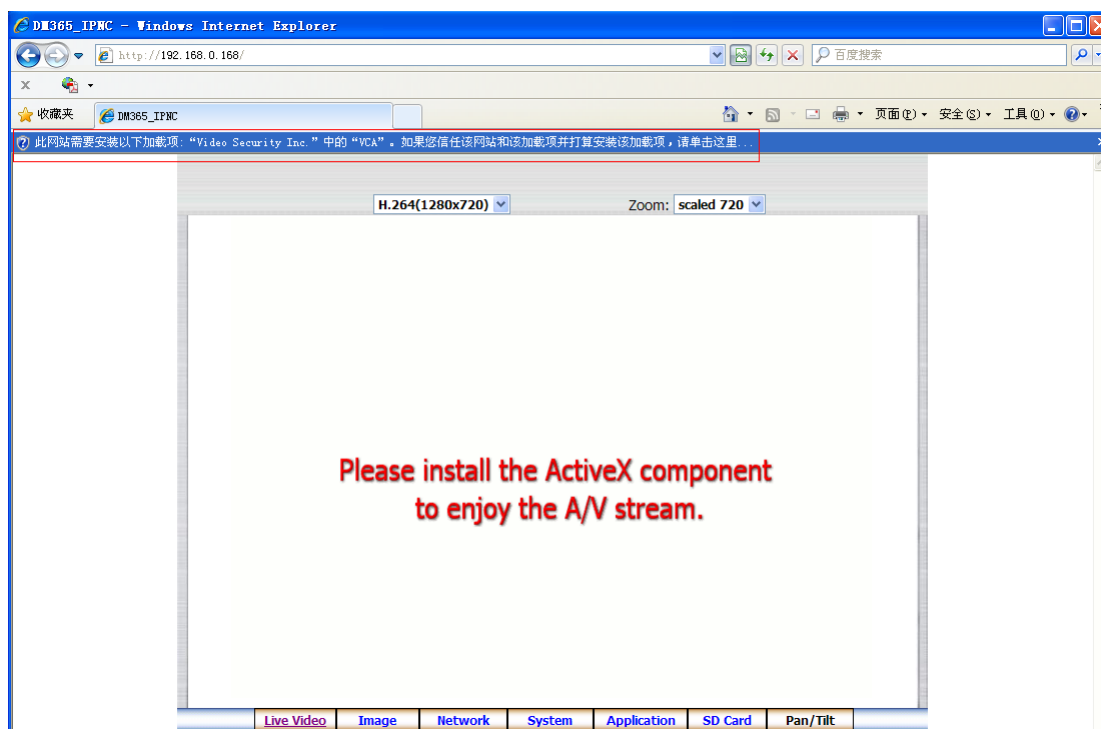
Upnp port is 0
UPnP Initialized OK ip=192.168.0.168, port=49152
desc_doc_url = http://192.168.0.168/tvdevicedesc.xml
error code = 0
device advertisement succeed.
```

5 打开 IE 浏览器，在地址栏里输入 **192.168.0.168**，接下来会弹出一对话框要求输入用户名和密码，分别为 **admin** 和 **9999**，点击确定。接下来会提示安装插件，安装好插件即可通过浏览器查看到视频。具体步骤如下，亦可参见 [《YY-DM365 说明书》](#)。

1) 将地址输入浏览器中，将会弹出登录界面，输入相应的用户名及密码即可，如下图所示。



2) 随后将弹出所需安装插件界面，点击安装即可，如下图所示



A photograph of a computer monitor displaying a Windows Internet Explorer browser window. The browser shows a webpage with a large image of a red computer mouse and various cables. The monitor's bezel has "ViewSonic" and "1080p" printed on it. The taskbar at the bottom shows several open applications including "Internet Explorer" and "ViewSonic".